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Our PUBLIC LANDS

BUREAU OF LAND MANAGEMENT

JULY–AUGUST–SEPTEMBER 1957 • Volume 7, Number 1

OUR PUBLIC LANDS . . .

Dear Subscriber:

The last issue of *Our Public Lands* published was Volume 6, Number 1, for January–February–March 1956. Future numbers will be published quarterly, beginning with this issue, Volume 7, Number 1, July–August–September 1957.

Editor

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COVER

This is not a terraced rice paddy, but an aerial view of a BLM waterspreading system in Montana. Shown at full flood stage, the intricate network of dikes offers dramatic evidence of how waterspreading systems effectively retard potentially destructive runoff. The downstream panorama covers more than a square mile of the Burnett waterspreading system on Willow Creek near Glasgow. It was constructed by BLM in 1951 with the cooperation and assistance of local residents and involved the building of a 2,000-foot collection dike (visible in the foreground) and a scientific pattern of secondary dikes downstream (the curving dark lines in the background). Water from a recent rainstorm appears light grey in the picture. The earth-filled dikes, from 3 to 4 feet high, will retard water for several days that would otherwise run off in a matter of hours. The fine wavy lines in the lower left are contour furrows, plowed to stop sheet erosion on the slopes above the collection dike. For more about waterspreading systems see page 8.

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GROUSE CREEK REBUILDS THE RANGE

(Courtesy of
Deseret News and Telegram, Salt Lake City)

by **EDWIN O. HAROLDSEN**

FOLKS in the tiny community of Grouse Creek (population 300) in the northwest corner of Utah think Myrvin E. Noble and Fred Jewkes of the Bureau of Land Management are "tops."

Grouse Creek, like many other areas of the state, has been hard hit by several years of drought. With feed scarce and the cattle market nothing to rave about, they found themselves in a financial bind.

One March evening, Mr. Noble, who was range manager at Brigham City, Utah, met with stockmen in the Grouse Creek LDS Ward meeting house. (Mr. Noble is now a member of the Director's Range Management Staff in Washington, D. C.)

He had been working for some time on a long term plan to improve grazing in the area.

At the meeting he suggested the stockmen pay about one-fourth of the cost of building 29 fences, reseeding depleted range, and making real water holes out of 7 muddy seeps.

They talked almost until midnight and hashed the proposal over and over. Finally the group agreed to go ahead.

But most of them said they'd have a hard time raising cash.

Raymond Tanner, a cattleman, suggested the Grouse Creek men work off their share of the costs—and then work for Uncle Sam to complete the job.

Grouse Creek had a mechanic, jack hammer operators, tractor men—just about any skill that would be needed.

So the BLM people agreed to go ahead on that basis.

Just about every able bodied man of the 35 families in Grouse Creek worked on the project, taking time off to do their haying and other ranch tasks.

Altogether, approximately $36,000 was spent on the project—much of it in wages to the men of Grouse Creek.

Mervin L. Tanner, bishop of the Grouse Creek LDS Ward and a cattleman himself, was picked as one of the two crew leaders by Fred Jewkes, who was Noble's conservation and improvement man.

Approximately 6,500 acres of sagebrush range infested with halogeten had been plowed and seeded to crested wheatgrass in the fall of 1952. Extreme drought during 1953 and 1954 prevented it from doing anything. Since similar sites in the area had been successfully reseeded, they tried it again.

"Without local work some of our families probably would have had to leave," Bishop Tanner said.

"Mr. Jewkes was quite concerned with the condition of some of our range watering places when he came here.

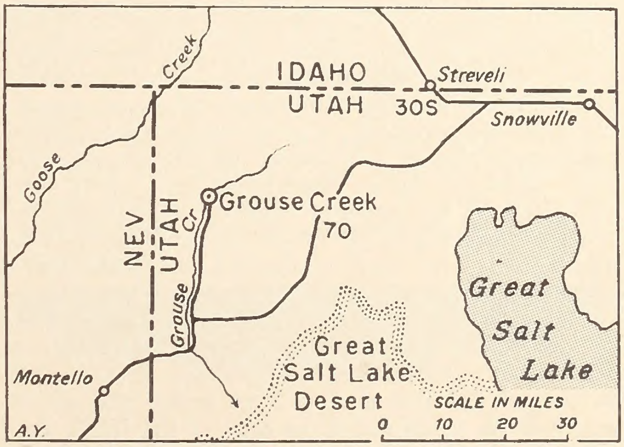
"Some of these places were not much more than mud holes where cattle would wade around for great lengths of time before their thirst could be satisfied.

"These springs were dug out, and piped into troughs supported above the ground by cedar posts set into the ground and connected by 2-by-6 cross beams," Bishop Tanner added.

The fences were built to control livestock use on the range. Some were built to separate the summer and winter ranges, others to divide federal from private lands.

Altogether, the BLM's decision to let Grouse Creek men do the job saved the community. **End**

MAP. Grouse Creek area, northwestern Utah.



40-ACRE OIL LEASES?

by **LEWIS E. HOFFMAN**, *Minerals Staff Officer, BLM*

IS THERE too much speculation in leasing? The finding of new sources of supply of oil and gas is costly. The actual exploration for these valuable natural resources is beyond the average means. Large capital outlay is required not only for actual drilling operations but for preliminary geological and seismographic work. High-salaried geologists and mining engineers must be employed not only to supervise these operations but to determine where to commence the drilling of a test well.

The law permits the issuance of oil and gas leases to any citizen of the United States without restriction or drilling requirements (with exceptional cause, such as drainage) provided he does not exceed the acreage limitation of 46,080 acres in each State and in the Territory of Alaska. If a lessee pays his rental for 5 years (which under existing regulations amounts to $1 an acre for the entire 5 years) and pays $2.50 an acre for the next 5 years by obtaining an extension, he has 10 years to segregate 46,080 acres in each of the public land States. During this period the lessee may hope that either discovery will be made in the vicinity of his holdings by others and make his leases highly valuable or that his lands will be a part of a block which some operator desires to drill or unitize for the purpose of drilling and purchase his holdings by assignment, or enter into an operating agreement.

Where acreage is needed by an operator to complete an area desired to be tested, large sums are sometimes paid to lessees for options, assignments or operating agreements. This situation plays on the gambling instincts of some people. Yet, the vast majority who invest or speculate in obtaining oil and gas rights are seldom successful. Most of these speculators are never approached by an operator offering options or operating agreements or offers of purchase by assignment. The lands embraced in those leases are often never tested for their oil or gas potentialities, with a consequent total loss to the lessee of the rental paid thereon. Nevertheless he is willing to risk that loss in the hope that he will be one of the few that will be lucky and oil or gas will be produced from any of the lands embraced in his leases, or that somehow he will be able to bargain his holdings at a profit.

The quarrel is not with legitimate oil and gas brokers. It is the small broker who is responsible in many instances under the Leasing Act for valuable new discoveries of sources of supply of oil and gas. It is the legitimate broker who gathers acreage and often geological data to the operator for testing wildcat land. The major operators realize the important role leasing brokers play in the development of our petroleum resources. As a matter of fact, operators employ the brokers to map out and obtain leases for areas which may look promising for exploration.

As distinguished from the legitimate broker, less scrupulous persons, through newspaper and magazine advertisements, mail, and personal solicitations, induce people to file oil and gas leases under the most glowing promises that a 40-acre filing may make millions. They are charging anywhere from $1 to $7.50 an acre, or a maximum of $300 for 40 acres, for what is represented as a chance to make many millions. The chance to make millions may be only one-in-a-million but many uninformed or profit-seeking persons fall for it—particularly those who know least about the oil and gas industry and the Mineral Leasing Act. Most lose their money plus payment of future rentals.

Most speculative brokers are ubiquitous. They will operate in different States at different times. Their advertisements are so worded as to avoid prosecution under the postal or fraud laws. That their operations have been highly successful is evidenced by thousands of such small acreage filings that have resulted from such solicitations. A person reads glowing accounts of making big money in oil and gas. His gambling instinct is aroused. It's like betting $2 on a horse race, but he is now playing for larger stakes.

The citizen in Bangor, Maine, who might question the payment to such advertiser, but who nevertheless desires to speculate, cannot ascertain the lands available for oil and gas filing by examining our records himself without considerable expense, probably more than he pays such advertiser. We cannot under existing conditions inform him of available lands. Moreover, land status changes from day to day. By employing abstracters and sending them to our various Land Offices, the speculative agent, however, is able to search our records and find lands available for leasing. Under a power of attorney, he fills in the description and the deal is completed.

Advertisements, appearing in various newspapers and magazines throughout the country, resulted in an unprecedented filing of oil and gas lease offers for 40-acre tracts, and in many of our offices there was a corresponding increase of correspondence from those who had paid these advertisers and had not received the leases they sought.

To prevent further voluminous filings of small acreage areas for oil and gas leases the Department on June 17, 1952, amended the regulations providing that an offer for an oil and gas lease may not be for less than 640 acres, except where the offer is accompanied by proof that the lands are in an approved unit or cooperative plan of operation, or that the form of such a plan as has been approved by the Director of the Geological Survey. The other exception applies to situations where the land is surrounded by lands not available for leasing under the act.

Under the act of August 8, 1946 (60 Stat. 950), the law made it mandatory for the Secretary to approve all assignments of oil and gas leases if the assignee was qualified for citizenship and holdings, and if he filed a bond where a bond was required by law. Since the passage of this act, the Secretary could not prevent approval of assignments of small or fractional interests in leases. Consequently, the regulation limiting lease offers to 640 acres, with the exceptions mentioned, did not prevent the advertisers from obtaining 2,560 acre leases and assigning 40-acre interests to 64

(Continued on page 12)

TYPICAL ADVERTISEMENT. This ad was clipped from one of the men's adventure magazines and is like many that offer 40-acre leases by mail order.

Yours For $100

U. S. GOVERNMENT OIL LAND LEASE

YOU BUY NO STOCK! YOU DO NO DRILLING!
YOU PAY NO TAXES!

40 ACRES ARE YOURS. *Perhaps never before in history has wildcatting for oil been more active in the U. S. than it is today.* During 1951, the states of Wyoming and Nevada had record years in oil production and 1952 *promises to set off new drilling rushes!*

If you are an American citizen, over 21, you are eligible to file for an OIL LEASE on Public Lands in Wyoming and Nevada. There are still MANY DESIRABLE LOCATIONS AVAILABLE, as most of the people in oil business who know of their rights have taken all they can get from the Government.

$100 cover ENTIRE COST TO YOU for 5 YEAR LEASE. This includes 1st 3 years rent, Govt. Filing fee and our fee. 4th & 5th yr. you pay directly to U. S. Govt. $10 per yr. per 40 acres tract. We also send you a geological map showing your leasehold in relation to nearby drillings.

Your lease is a contract between you and the United States Government.

Our on-the-spot offices in Wyoming and Nevada are constantly checking open-for-lease lands close to wildcat drillings and holdings of large oil companies. If oil is discovered near your property the oil company doing the drilling contacts you direct and you have EXCLUSIVE CONTROL OF THE OIL RIGHTS ON THE LAND.

Naturally best locations go first, so don't delay. As soon as we receive your check or M.O. for $100 we will rush Govt. Lease forms for your signature. If you like to speculate in the oil business—here is your opportunity.

[redacted]

BETTER SERVICE ON APPEALS

by GORDON S. THATCHER

THE APPEALS UNIT of the Bureau of Land Management began operations on April 4, 1955, under the direction of A. H. Furr and with a staff of 5 professional employees and 3 clerical personnel—detailed principally from the Lands Staff and Minerals Staff.

Basically, the Appeals Office has jurisdiction over appeals from decisions of the Land Office Managers, and (since the new Rules of Practice, effective May 1, 1956) from decisions of the Field Examiners. These deal mainly with rights of persons to acquire title to public land, to obtain a lease or other use of lands, or to acquire title to or lease minerals under the public lands, or to obtain leases or permits for minerals on certain acquired lands. These rights, or claimed rights, arise under many different public land laws.

The regulations pertaining to the land laws are contained principally in Title 43 of the Code of Federal Regulations. Manuals and instructions setting forth policy and procedures in several volumes, and Departmental decisions and Bureau precedents also have an important bearing on such rights. All of such laws, regulations, and precedents play an important part in the work of the Appeals Office, since it is to the Director that appeal is taken when adversed parties feel their cases have not been properly adjudicated.

When such cases reach the Appeals Office they usually are highly controverted. Attorneys have been employed who file briefs setting forth analyses of the facts and arguments as to the law and regulations. For example, a brief of 130 pages plus exhibits was filed on behalf of one party to a pending appeal concerning certain oil and gas leases. The appeals examiners must examine and weigh the evidence, apply and properly construe the laws and regulations, and correctly interpret the policies in preparing proposed decisions.

In mining cases a knowledge of State and Federal court decisions must be applied, because in such cases possessory rights are involved which are considered the highest form of real property. In mining cases there frequently have been contests, where hearings have been held, which resulted in transcripts of voluminous testimony and exhibits. Examiners must also know something about mining, geology, and many other technical matters.

New mining legislation has already brought into the Appeals Office cases of novel impression—those for which there are no established precedents. This situation is also true in other cases, because it is to this Office that the first appeal comes. We frequently have to blaze the first trail. This challenge gives vitality to the work. It points up the advantage of good teamwork. It also enhances self reliance and good constructive thinking.

Under the new Rules of Practice, a new right has been given to appellants, which adds new responsibilities to the Appeals Office. In connection with an appeal to the Director, a party may request that the Director refer the case to a Field Examiner for a determination of facts in controversy. The Director in his discretion may order such a hearing and define the issues to be heard. The Field Examiner does not render a decision, but submits his findings to the Director to be used in connection with the examining of the appeal. This is separate from contest proceedings where the Field Examiners render decisions in the cases, from which an appeal may be taken to the Director.

On April 4, 1955, there were on hand in connection with appeals to the Director some 1,200 cases of all classes. The previous practice had been for the respective Staff Officers to handle appeals in their area, on such a basis as time and opportunity permitted. In addition to the 1,200 cases mentioned, an influx of appeals was added to the total when the field offices were directed, by Bureau Order 585, to transmit promptly to the Director the appeals then on hand, rather than to make a detailed analysis of the appeals in the field. However, where special situations required comment in the transmittal of appeals the forwarding office was authorized to do so.

Several primary objectives commanded immediate attention:

1. To separate the actual appeals operations from such matters as preparation of regulations, manual procedures, and legislation and from planning, policy development, and program development.

2. To make an accurate inventory of the appeals cases on hand, including the kinds of cases, and how long they had been pending.

3. To set up adequate files, records, and docket controls as a scientific basis for control of the work and for continuing statistical analysis of workload.

4. To provide for immediate screening of cases upon receipt, and for summary action where possible. Immediate action was to be taken on all correspondence which needed reply.

5. To provide an adequate library of precedents, regulations, decisions, and other essential data needed in examining appeals cases.

From the beginning, the decisions were dittoed and furnished to each Land Office, State Office, and Area Office. This helps keep them abreast of the Bureau's actions in interpretation of regulations and laws so that uniform action may be maintained throughout the Bureau. An index and digest of decisions has been completed. This innovation affords a quick, ready reference by topical subject to actions on all appeals. All of the field offices are supplied with complete sets, resulting in substantial savings of time and money in handling appeals.

One of the key values to the Bureau as a whole is derived from the format and style of written decisions. The aim is to make them sufficiently complete by adequate analysis of the facts and citation of applicable laws and regulations without unnecessary length or unwieldiness. Simplicity and understandability by the layman are emphasized. This has done much to develop and improve decisions by the field offices and reduce the number of appeals taken from decisions in the field.

A monthly report is issued to reflect the workload of cases—pending, received, and disposed of, by categories, together with a narrative report. As a double check, the Program Coordination Staff is consulted periodically. Statistics should be accurate and useful—no gobbledegook.

By the end of the first year, 2,100 appeals cases had been processed, reducing the number of cases pending at that time to 1,115. In addition 1,436 letters and memoranda were written, bringing the office current on handling all correspondence.

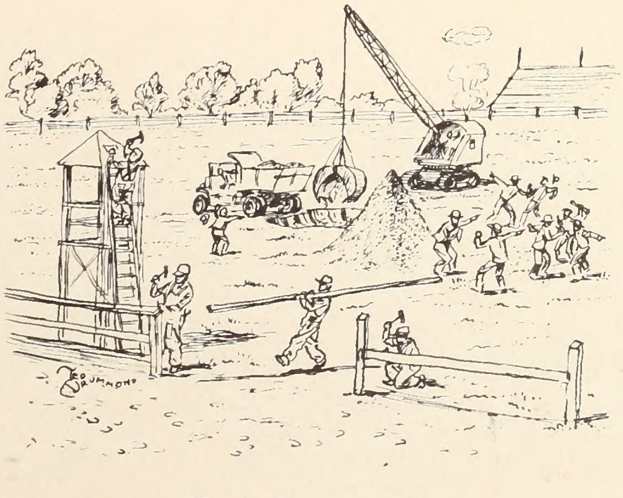
From the beginning it was recognized that the Appeals Office is a favorable place for training personnel, as the nature of the work cuts across many phases of the Bureau's activities. The Office evinced keen interest in such training. The interest has extended to all levels, to new personnel, to field employees, and to those who have had experience elsewhere in the Bureau but who may receive benefit from a rotational assignment. This has reaped dividends both for the Appeals Office and for the Bureau as a whole. Many appeals alumni have gone on to important positions elsewhere in the Bureau.

The Appeals Office is in a unique position with reference to dealing with the public, claimants, attorneys, other Government agencies, and with Members of Congress. People from all over the United States write and visit BLM's Appeals Office in connection with pending or proposed appeals. To them a case is not just so many papers, but represents the defense of rights vital to them or their clients—rights sought or acquired in lands, minerals, or surface resources.

One case of unusual interest concerned three conflicting claimants who applied for the top of a mountain peak in Idaho. They wanted it for television sites. The conflict was apparently irreconcilable, and the case had been pending for some time. It appeared that it was a situation where a compromise would please no one, rather than everyone. A Solomon-like division was decreed and no complaint was ever received. The cooperation of other Staffs, particularly that of the Cadastral Engineering Staff, was essential to the solution of this problem.

Changing conditions reflected in the appeal cases frequently provide the impetus for review by the appropriate Staff of present policies and procedures. Examples are: Standards of improvements required of small tract lessees; policy on renewing small tract leases; necessity of more specific and better information in field reports covering area classifications; the extent to which priority of filing has an influence when State's applications are in conflict with private applications; procedures under Public Law 585 as to mining claims. (Such have been clarified as to field investigations and hearings rights.)

Many cases of unusual interest are received. One was a race track case in Phoenix. A million and a quarter dollar race track was being built



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WYOMING WATERSPREADING HAS ANCIENT ORIGIN

by **SALLY ROSS**

(Special permission of *Daily Times,* Rawlins, Wyo.)

THE BUREAU OF LAND MANAGEMENT is experimenting in the Red Desert of Wyoming with water spreading systems like those used 22 centuries ago by the Romans in North Africa.

One of the systems is the Little Robber Dike project located some 12 miles north of Baggs and some 65 miles southwest of Rawlins. It has 6 reservoirs, a detention dam, a diversion dam and 300 acres of 2- to 3-foot high dikes. The diversion dam and dikes are all enclosed with 4½ miles of wire fence.

The only water source for the system is the annual rain and snow fall, stored in the detention reservoir for 45-day periods during the winter months.

Since the project was completed 3 years ago, the face of the land has changed within the fenced area. Native and seeded grasses have grown waist high and can be seen rippling in the wind.

A lone deer and her fawn are occasionally seen browsing on the tall grasses while the heavier footed cattle grazing outside the project peer wistfully over the fence. The ground is still muddy from a recent rain and there are a few puddles breeding mosquitoes.

Outside the fence the earth is dried and cracked, and vegetation is so sparse and low that it never catches in the wind. The plants are greyed miniatures of those thriving within the dike systems.

The completed dike system was first opened for grazing last year when 134 cattle and 2 horses owned by L. A. Brazell of Baggs, were turned onto it May 1 to June 11, and again from October 10 to November 3. This grazing was somewhat heavier than that on native areas surrounding the dikes, Harold Hunt, range conservationist, reports.

Studies of their grazing revealed that the average grazing capacity of the land, as determined by a 1941 range survey, had multiplied almost five times.

Back in 1941 it had taken an average of 8 acres to feed 1 cow for 1 month. The grazing capacity

ANCIENT REMAINS. This is a view of an over 2,000-year-old stone waterspreader in Palestine. Probably built by the Nabateans or Romans, th
the modern town of Abda, Israel.

of the area within the present dike system was believed to have been much lower, because of its vulnerable position in a natural drift area along a main stock driveway.

Not only has the water spreading system increased the land's average grazing capacity five times, but it has raised the estimated value of the land 422 percent—from $1.38 an acre to $7.21 an acre.

Yet vegetation changes supposedly occur very slowly in a desert or semidesert area such as the Little Robber drainage, according to Robert L. Lang, associate agronomist with the University of Wyoming. He thinks the water spreading projects should have been started here 30 years ago.

Similar systems were built 22 centuries ago in North Africa, and about 2,000 years ago in the Negev desert of Palestine.

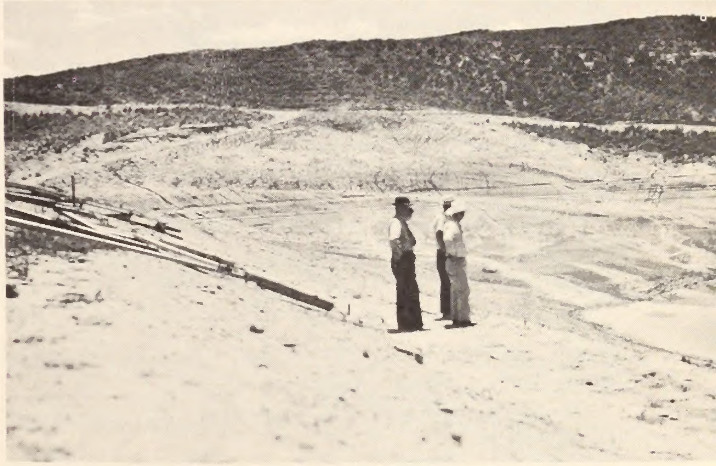
Bob Sweet, a Little Robber project engineer recently transferred to Libya, North Africa, reports the Romans' ancient waterspreading projects are still beneficial to the desert land. Although the dams and dikes are crumbling, the vegetation within the Romans' water-spreading systems is still obviously better than in the surrounding area.

Emanuel Karin, a recent Israeli visitor to the Little Robber Dike project, noted its resemblance to the ruins of a similar project believed to have been constructed in the Negev desert of Israel 2,000 years ago.

The BLM started experimenting with water spreaders in southeastern Montana near Alzada and in northern Wyoming on 15 Mile Creek near Worland and on the Muskrat drainage near Lander. State Supervisor Lowell Puckett explains these experiments added another phase

(Continued on page 14)

RESULTS AT LITTLE ROBBER. Waterspreading has made possible the high grasses seen above.



DETENTION DAM. Modern counterpart of old Roman waterspreaders catches runoff waters for distribution to denuded lands.

uins are located near

DESERT GRASS. Old waterspreading dike near Mersa Matruh, on the western desert of Egypt.

active acres

PUBLIC LANDS DWINDLE IN EAST

The Bureau of Land Management Statistical Appendix for fiscal year 1956 shows that the area of vacant public land under the administration of the Eastern States Office comprised 214,632 acres as of June 30, 1956.

A total of 63,583 acres was disposed of during the fiscal year, including 56,176 acres under the public sale law and 3,056 acres under the Small Tract Act, Recreation Act, and other public land laws.

A total of 101,388 board-feet of timber, valued at $3,931 was sold under the Materials Act.

Trespass collections during the year amounted to $1,306.69.

A total of 62,797 acres was classified under the Taylor Grazing Act, including 58,630 acres found suitable for sale at public auction, and the remainder or 4,146 was classified as suitable for disposal under the recreation, small tract, and homestead laws; 2,585 acres were classified as unsuitable for disposal under the homestead, public sale, small tract, and other laws.

Chalking off Indiana, where the last public land tracts were sold during the year, the only Eastern States which still have vacant public lands are Alabama, 16,678 acres; Arkansas, 72,692 acres; Florida, 9,815; Louisiana, 1,125; Michigan, 7,091; Minnesota, 92,574; Mississippi, 11,033; Missouri, 603; and Wisconsin, 3,013.

OIL DRILLERS EYE 40-FATHOM WATERS

Deeper and deeper go the oil drilling barges in the Gulf of Mexico as exploration of the newly developed Outer Continental Shelf advances.

Recent indications of the possibilities have been numerous inquiries as to the availability of BLM maps for deeper OCS waters beyond the limits of existing BLM leasing maps which cover approximately 21 million acres of the Gulf.

Director Edward Woozley gives assurance that the Bureau of Land Management plans to extend its lease block systems to include deeper waters (there are proposals to carry on a gravity program to depths of 250 feet). The data may be available prior to future lease sales.

The desirability of keeping abreast of industry's progress in designing and constructing equipment suitable for drilling operations in waters bordering on 200 feet deep goes without question.

It is known that the Outer Continental Shelf extends to depths of 600 feet. Discoveries thus far reported in the Gulf of Mexico have surpassed the 100-foot mark in depth and the 40-mile mark in distance from land. There appears to be no limit to this amazing technique of offshore oil drilling from stilts.

OFFSHORE COMMITTEE NAMED

An Interior Department Committee consisting of Cadastral Engineering Staff Officer Earl G. Harrington, Chairman, Cadastral Engineering Officer Donald B. Clement, and Clarence R. Bradshaw, Assistant Solicitor of the Solicitor's Office has been appointed by the Assistant Secretary of the Interior to meet with a like committee representing the State of Louisiana to determine the location of the coast line of that State.

It is hoped that, as a result of the discussions between the two committees, a recommendation can be made which would provide a basis for fixing, by further appropriate negotiations and agreements, a mutually acceptable coast line.

The Assistant Secretary of the Interior also appointed the same committee to confer with the California State Lands Commission concerning the definition of the seaward limit of the State of California, as well as to discuss matters pertaining to the development of oil and gas in areas in dispute under the provisions of section 7 of Public Law 212, 83d Congress, 1st Session.

RIO GRANDE DELTA MOVING

In connection with the administration of the Outer Continental Shelf off Texas, the Bureau's attention has been called to a condition existing at the mouth of the Rio Grande River which may affect the interests of the United States. From available information, the mouth of that river is gradually moving to the north. If that is a fact, it appears that the boundary between the United States and Mexico extending seaward from the mouth of the river over the Continental Shelf will also move to the north, thus divesting the United States and Texas of ownership to a portion of the Shelf. The International Boundary and Water Commission, United States and Mexico, has been advised of the condition.

MEMORANDUM FOR THE SECRETARY

When in Boston April 26 I noticed a tablet on the commons stating it was established in 1634 as "a training field and for the grazing of cattle in common."

Search in the public library showed that this was the first grazing district in the United States, antedating the Taylor Grazing Act just 300 years. Rules governing its use limit the kind of livestock, hours and seasons of use, set the fees and prescribe preferences very similar to the rules of this Department. The only free-use permittee they recognized, however, was the preacher for 1 horse, whereas we allow every settler with 10 head or less of domestic stock a free-use permit.

(sgd.) F. R. Carpenter,
Director of Grazing.

ECONOMICS OF HOMESTEADING

Modern Homesteaders, the Life of a Twentieth-Century Frontier Community; by Evon Z. Vogt. Harvard University Press, Cambridge: 232 pp., illus.

This book is a publication of the Laboratory of Social Relations of Harvard University, arising out of 1 of 5 studies of the value systems of 5 cultural groups in western New Mexico. The book studies a small, dry-land bean-farming community in western New Mexico, based primarily on homesteads taken up in the 1930's by people from Texas and Oklahoma.

Although mainly treating sociological implications, the book also discusses the economic situation in which the homesteaders find themselves after some 20 years of effort.

The community of "Homestead" (actually Fence Lake, N. Mex.) has a climate that exhibits great variations from year to year and from place to place. In a situation of economic uncertainty stemming from drought and frost conditions, reliance on nonfarm sources of income is unusually heavy. After the severe drought of 1950, one-fourth of the families had to leave to seek outside employment during the winter. Farm income fluctuates erratically from year to year.

Taking 1949 as an average income year, neither unusually favorable nor unfavorable, the average net family income was $2,577. The range was $8,000 to less than $600 per family. From the information obtained, a family 3 years out of 10 would have markedly lower income from economic activity in "Homestead" as compared with wagework elsewhere, assuming the economic conditions of 1950–51.

The writer of the book feels that the "Homesteaders" have learned from continuing experience with an uncertain agricultural environment that there is a limit to the techniques available to control the situation. Nevertheless they exhibit continued optimism for future growth. He concludes that the community is in the process of becoming a settlement of widely scattered ranches and that the community, as such, will disappear altogether as ranchers continue to buy up land.

SURVEYORS NOT EASILY "BUFFALOED"

To satisfy a constituent's request, one of the Senators from Kansas was recently furnished information obtained from the cadastral survey records relating to conditions encountered at the time of the execution of the original surveys in Smith County, Kans., about 100 years ago.

Considerable search and study of the survey records was required to answer the specific inquiries propounded to the Senator, but the Bureau was able to supply all of the information requested.

An interesting item noted in reading the field notes of a particular Kansas township was that the buffalo were so numerous it was actually necessary to drive them away in order to project the survey line and establish the section corners.

IRRIGATION DESIGN

Irrigation Engineering, Volume II, by Ivan E. Houk.

Volume I of *Irrigation Engineering* by Houk was published in 1951 and treated the agricultural and hydrologic phases of irrigation. A short review of Volume I appeared in *Our Public Lands* in 1951. It has proven to be a useful reference for soil and water relationships.

While Volume II has been written primarily for the actual layout of irrigation enterprises and the design and construction of large installations, BLM agricultural engineers and conservationists will find it has a wealth of information

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40-ACRE OIL LEASES?

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different assignees, or respondents to their advertisements. This actually occurred and for years the Bureau's Land Offices, without exception, have been deluged with 40-acre assignments, causing considerable work to the Government and to the public with probably little or no chance that it will lead to the discovery of new sources of supply of oil and gas.

To make the regulation limiting oil and gas lease offers to 640 acres effective, it is necessary to amend the Mineral Leasing Act so that approval of assignments of fractional interests in oil and gas leases will also be limited to 640 acres, with few exceptions.

The Director and his staff have been considering proposed legislation which will attain the objective of curtailing and probably eliminating all advertisers of less-than-1640-acre interests in oil and gas leases. This will protect the public and result in a considerable reduction of the backlog that exists in most of the Land Offices. It will also aid operators in gathering sufficient acreage to warrant the necessarily large expenditures for drilling wildcat land and discovering new oil and gas reserves.

The proposed legislation would limit approval of assignments of interests of oil and gas leases to not less than 640 acres, except when:

1. The proposed assignment covers the entire acreage of an existing valid lease which includes less than 640 acres.
2. There is an agreement, satisfactory to the Secretary, providing for the assignee to commence drilling within 1 year from the effective date of the assignment, or a showing satisfactory to the Secretary that he has financially contributed to the drilling of a well within an area of 6 miles square from the lands embraced in the proposed assignment. The agreement would also provide for the automatic cancellation of the portion of the lease assigned to him if a proper showing is not made that the required drilling was commenced within that period, or that he has contributed within that period to the drilling of a well on lands within an area of 6 miles square from the land embraced in the proposed assignment; or
3. The lands covered by the proposed assignment are within a cooperative or unit plan of development approved by the Secretary, or within a proposed cooperative or unit plan of development or operation pending for approval before the Secretary; or
4. The lands covered by the proposed assignment are within an oil- or gas-producing field.

Why do such small-acreage leases or assignments retard development of our potential oil and gas resources?

Suppose that X company has spent considerable time and money studying all geological data available with the intention of investing a large sum of money in exploration for oil and gas in a virgin territory. It finds that there are 50,000 acres of public lands in the particular section of Wyoming in which it desires to do geological and seismographic work preparatory to commencing drilling operations on the best location in that area. It engages a legitimate broker to examine the land records and obtain leases on vacants available lands or options from holders of leases in the area.

The broker, however, finds that the 50,000 acres are covered by some 1,200 leases, the holders of which are scattered from Maine to California. To attempt to obtain options from these lessees would cost a great deal more than actual drilling operations. Moreover, the holders of these leases paid the speculative broker from $100 to $300 for 40 acres. He will not sign an option unless he receives a large profit from his investment. The operator often gives up in despair and wildcat territory is not tested for its oil and gas potentialities or drilling is considerably delayed.

The same situation exists where operations are contemplated under a unit plan to be submitted for approval of the Department. Anyone who has endeavored to obtain the signatures of 1,200 people to a local petition will realize what a task it is to obtain the signatures of 1,200 lease holders.

What can be done about it?

If the mineral resources of our public lands are to be developed, cooperation between Government and industry is vital. The Mineral Leasing Act invites private capital to invest in exploration of our potential mineral resources. In effect it forms a partnership between industry and Government. The Government owns the land. Industry uses its capital to explore it. With this kind of cooperation, these and other problems can be worked out acceptably for all concerned. **End**

The total area of the Territory of Alaska is 586,400 square miles or 375,296,000 acres. Of this area the Bureau of Land Management has exclusive jurisdiction over an estimated 270 million acres of vacant public lands.

From May 20, 1862 through the end of fiscal year 1956 a total of 1,464,561 final homestead entries have been made on public lands, embracing an estimated 247,828,318 acres.

During fiscal year 1956 there were an estimated 957,404 big game animals on grazing district lands, including over 115,000 antelope, nearly 816,000 deer, about 18,000 elk, and 565 moose.

Natural gas production from public lands in the United States during 1956 exceeded 271 billion cubic feet.

BETTER SERVICE ON APPEALS

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on land patented under the Stockraising Homestead Law and on which all minerals were reserved to the United States. An enterprising party located a sand and gravel claim in the middle of the race track, and a panic almost started. The mining claim was declared null and void. The race track is now in operation.

Leases and permits were issued for tungsten on acquired land under the jurisdiction of the War Department. The field took action to cancel the leases and permits, and the fight was on. Voluminous briefs were filed, oral argument was had before the Director. Millions of dollars were claimed to be involved. The action was sustained canceling the leases and permits on the ground that there was no authority in law authorizing their issuance. The Department affirmed the decision.

Mining claims were located for slate deposits on lands extremely valuable for small tracts. The case was fought out on appeal before the Bureau by the largest law firm in the District of Columbia. The mining claims were held to be invalid. The case was appealed and the Director's decision was affirmed by the Secretary. A motion for reconsideration was filed and the Department ordered a further field examination.

Proposed decisions have been submitted involving sand and gravel mining claims in conflict with hundreds of desirable small tracts. Oral arguments by representatives of both the mining claimants and an association of small tract claimants were held before the Director. Voluminous briefs were presented which required consideration of many involved and complex factual as well as legal and technical matters.

We have in the Appeals Office some cases that might be termed "Rustling of Desert Lands." In these cases a group of real estate operators sold a number of people on the idea of paying them to file applications for desert land entries. Up to $3,200 per application was charged merely for making these filings in the Land Office. The brochure described the land as being in a high valley, completely surrounded by snowcapped mountains, with a beautiful lake on the property, plentiful streams, excellent hunting and fishing in adjacent areas. The lake and streams, and most of the other alluring details turned out to be just a mirage. In fact the applications were rejected for lack of water. The applicants appealed to the Director—110 cases. A telegram from the State Supervisor stated, "Case files weighing 23 pounds sent to Director via parcel post."

End

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on conveying and managing water. Most of the material relates to much larger structures than are normally installed by BLM, yet the principles of design and the experience data for operating structures will provide many ideas for the solution of soil-erosion problems. A large portion of the book is devoted to the conveyance of water by many types of structures and installations. There is also considerable information on impoundment structures of all types including embankment dams.

The author has drawn freely upon his experience with the Bureau of Reclamation and the book contains a large number of designs and useful tables.

CONSERVATION AWARD

A. D. Brownfield, prominent New Mexico cattleman, has received the Department of the Interior's Conservation Award for outstanding service and leadership in conservation of the Federal range.

The award was presented by Under Secretary Hatfield Chilson at the concluding session of the annual meeting of the National Advisory Board Council for Grazing in Washington, D. C.

Mr. Brownfield, who raises Hereford cattle near Deming, N. Mex., was the sixth BLM nominee to receive the award since its inception in 1951.

A past president of both the American National Cattlemen's Ass'n. and of the New Mexico Cattlemen's Ass'n., Mr. Brownfield was influential in passage of the Taylor Grazing Act. His personal efforts were instrumental in obtaining ANCA sponsorship of the Taylor Grazing bill in 1932.

The award certificate recognized his long service as the first chairman of his local advisory board in 1934, the first chairman of the New Mexico State Advisory Board in 1936, a charter member of the first National Advisory Board Council in 1939, and for his leadership as chairman of the National Board since 1949.

"Your efforts to promote passage of the Taylor Grazing Act and strengthen it with subsequent amendments have contributed greatly to effective public land administration," Secretary Chilson said. "Much of the present-day comprehensiveness of the Federal Range Code is due to your leadership and insight and your strong support of the Department's grazing fee studies has been most helpful in bringing needed adjustments to a successful conclusion in 1952 and adoption in 1954 of the present fee system."

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WYOMING WATERSPREADING

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to the BLM's work program, which is usually associated with homesteading and grazing of livestock on the public domain.

The Little Robber Dikes, the first of several waterspreading systems extending 40 miles in the vast Red desert, was started with construction of Bony reservoir in the fall of 1946 at a total cost of $271.98.

Bony reservoir was built at the headwaters of Little Robber Creek. Five other reservoirs—Trail, Eagle Draw, Clay Point, Rattlesnake, and Wild Horse—were built farther downstream and at other headwaters of the creek. They ranged in cost from $430.50 to $1,099.55, with storage capacities ranging from 6 to 38 acre-feet of water.

The earth-fill detention dam, the most expensive single item in construction of the system, was started in March 1953, and completed in June 1953 at a total cost of $25,416.78.

With a storage capacity of 562 acre-feet of water, it is approximately 828 feet long with a maximum height of 54 feet at the channel intersection. It has an emergency spillway, which is 600 feet long and 50 feet wide at the base.

Two years earlier—July 1951—300 acres of dikes and a diversion dam were constructed downstream from the detention dam. The 20 dikes were each laid on the contour of the land so that the base of each dike is level throughout the length of the dike.

The longest dike is 4,000 feet, and all of the 20 dikes are 2½ to 3 feet high. From the air, the dike system looks like a maze. Earth for the dikes was bulldozed from downslope so that there is a successive 2-foot fall between each of the dikes downstream from the diversion dam.

The diversion dam, dikes and 5 enclosures were fenced with 4½ miles of wire fencing at a cost of $4,332 in the fall of 1952.

Construction of the Little Robber water spreading system—6 reservoirs, detention dam, diversion dam, dikes and fencing—was completed in 1953 at a total cost of $37,387.81. This is a $6.87 per acre investment for 5,440 acres, but Jack Wilson, district range manager, points out that the BLM, having learned from the Little Robber experiment, is able to construct other waterspreaders in the area at one-third this pilot project's cost.

When the control gate of the detention dam is opened, the water flows through the dam's 18-inch pipe to the diversion dam and through its outlet pipe into the dike system.

The dikes direct the water to spread across 300 acres of the system. The two dams and the dikes slow the downstream flow of Little Robber Creek so that it cuts no channel and soaks all the ground in the system. It thus controls early spring runoff and flash storms, stopping silt and preventing erosion.

The Little Robber Creek's old channel, a 14-foot deep gash in the land, is now healing over with a growth of brush and grass. Its water now infiltrates the ground within the spreader system to a depth of eight feet, according to studies made by the U. S. Geological Survey.

Without the water spreading system, Little Robber Creek only infiltrated the ground to a depth of 1 foot, washing away the top soil. The system has cut down the Little Robber's flash flow into Muddy Creek, which empties into the Little Snake River.

But BLM State Range Management Officer Maurice March points out that some of the Little Robber's seepage in the dike area eventually reaches an underground water table flowing into Muddy creek. This underground water is clearer than the Little Robber's onetime spring runoffs which dumped valuable red top soil into the Muddy creek.

Construction of the Little Robber dike system was only the beginning of the project. In December 1953, 58.4 acres of the system were sown with Russian wild rye, tall wheatgrass, intermediate wheatgrass and crested wheatgrass. Grasses native to the region are western wheatgrass, Indian rice grass, "needle and thread," black root and others.

After construction, University of Wyoming, U. S. Geological Survey and BLM specialists began testing the project.

The growth and grazing of vegetation within and without the fenced area are measured periodically as well as the vegetation in five fenced, nongrazed enclosures within the dike system.

A close count is kept of the number and kind of grazing animals and the number of days they graze in the fenced area.

The surrounding range land had been grazed chiefly by sheep, but the specialists found the Little Robber dike area would produce more total forage for cattle than sheep. They also found time of best use came when sheep were off the surrounding range, grazing in the mountains during the summer months.

The USGS measures the force and amount of the water and its infiltration into the ground and dikes.

The BLM is constantly changing the structure of the system in its search for the most efficient operation of the water spreaders.

Some of the very long dikes were shortened to prevent water from spilling over the tops. BLM officials explained that in these long dikes the water had to build up to a height overtopping the dike before the water could push itself to the end of the dike. Shorter, rather than higher, dikes was the solution, the BLM engineers decided. With shorter dikes the water had less level distance to push itself.

The dikes were shortened by a buffer which was constructed perpendicular to the other dikes, splitting them into two systems.

Adjacent to the Little Robber drainage area the

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BLM is constructing five other water spreading systems on creeks which also empty into Muddy Creek. They are Red Gulch, Cottonwood, Blue Gap, Dad, and Big Robber. Each of them is in various stages of construction.

The Cottonwood, Dad, and Big Robber projects are much larger waterspreading systems than the Little Robber, which is the only completed system.

Results of the BLM's water spreading experiments have been so promising that the Government agency has been granted increasingly larger Congressional appropriations to continue this phase of their soil and water conservation program.

The water spreaders are converting the federally owned desert land into what are called high productive areas. These areas will be retained by the BLM for licensing and leasing to private stockgrowers. While privately owned stock is grazing on the water spreaders' high productive area, private land and other public land, sometimes overgrazed, will be getting a well deserved rest.

The water spreaders are thus not only conserving the soil within the dike system but are also indirectly conserving the overused soil located many miles distant.

The water spreaders are also developing the recreational potential of the once desert land. Wild game have been attracted by the lusher growth within the dike systems. Ducks are settling in increasing numbers on the stored water of the detention and diversion dams. Although the stored water is still muddy, it is gradually becoming clearer and eventually may be fit for raising fish. **End**

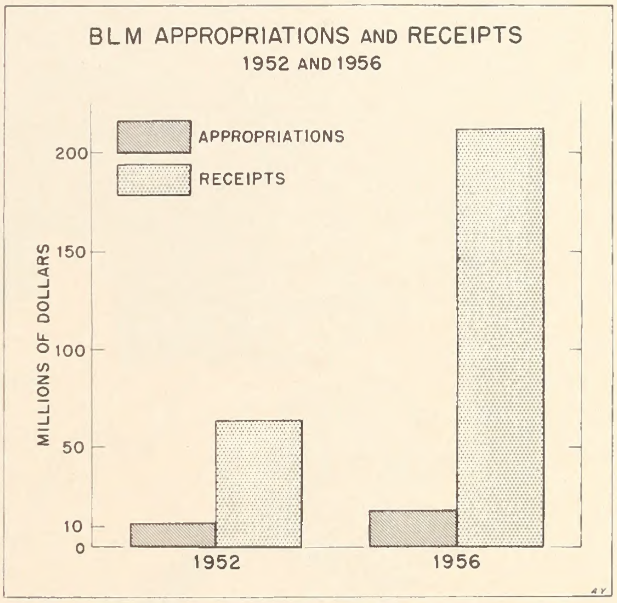
According to statistics compiled by the U. S. Bureau of the Census, the total land area of the continental United States is 2,974,726 square miles or 1,903,824,640 acres. In addition, some 47,661 square miles or 30,503,040 acres of inland water areas make up the total land and inland water area of the continental United States of 3,022,387 square miles or 1,934,327,680 acres.

BLM EARNINGS RISE

Total earnings for the Bureau of Land Management rose from $64.2 million in 1952 to $212.2 million in 1956. The operating budget for 1956 was $19.5 million, an average expenditure of $1 for every $10.88 earned.

All major categories gained. Mineral leasing went up 37 percent. Grazing fees gained 20 percent. Timber sales from the Western Oregon Forest Lands increased 167 percent. Public-land timber sales climbed 63 percent. Sales of public lands and materials jumped 214 percent, and services and fees went up 1.7 percent.

Where did the $212.2 million go? About $11.9 million went to the 18 O. & C. timberland counties in western Oregon; $24.8 million was distributed to 26 public-land states and Alaska; $36.8 million was deposited to the Reclamation Fund; $134.9 million, including all of the receipts from the Outer Continental Shelf, went into the General Fund of the U. S. Treasury; $3.1 million was transferred to other agencies of the Government; and nearly $619,000 was returned to the grazing districts for range improvements. **End**



BLM APPROPRIATIONS AND RECEIPTS
1952 AND 1956

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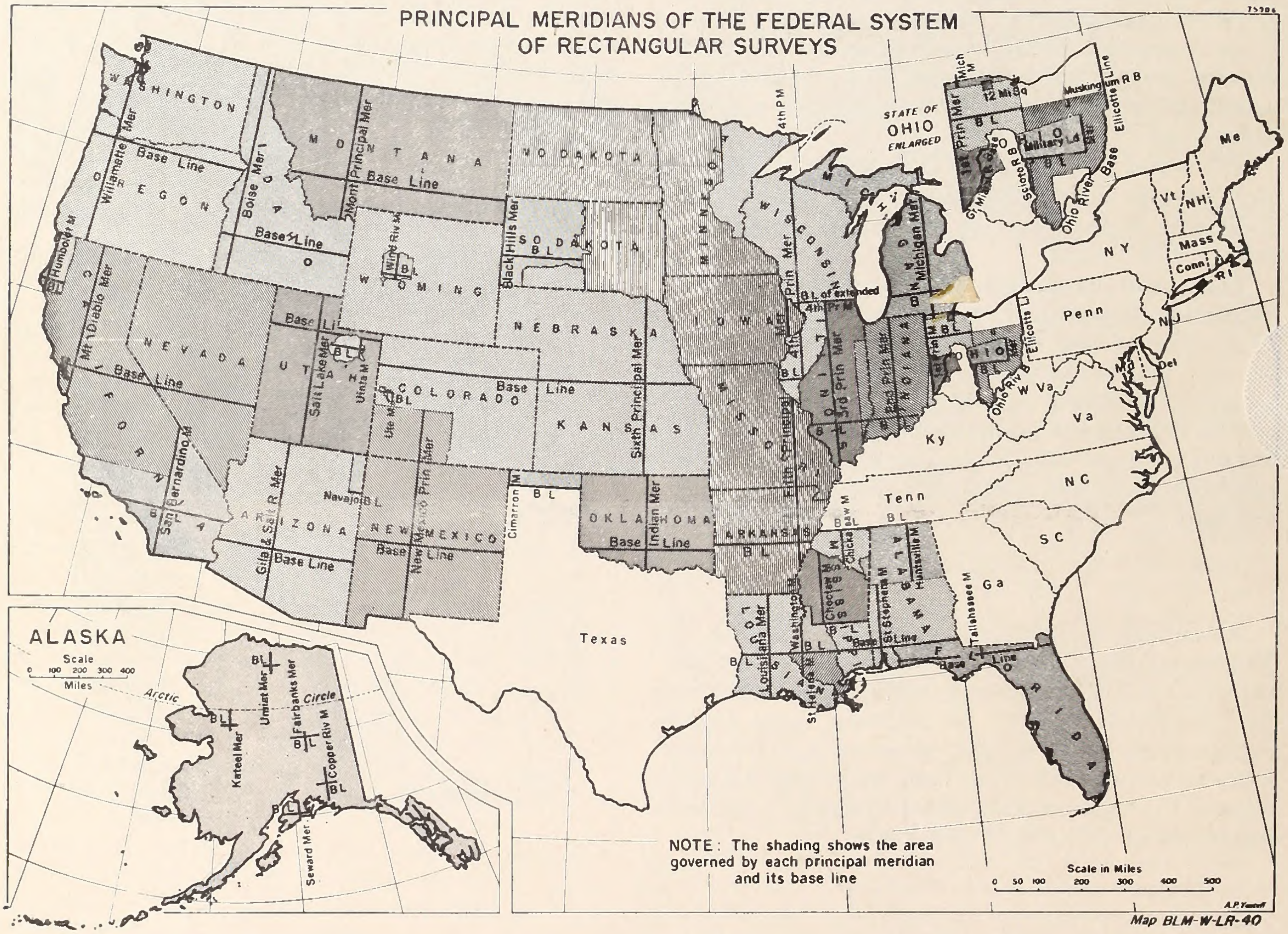

NOTE: The shading shows the area governed by each principal meridian and its base line

Map BLM-W-LR-40

SURVEY GRID GROWS. Cadastral engineers of the Bureau of Land Management recently established the first new principal meridians in Alaska since 1911—the Kateel and Umiat. The BLM network of basic guidelines for rectangular surveys now numbers 36 principal meridians, 5 of which are in Alaska and 31 in the continental United States. The last one to be established in the United States was created in 1881. The BLM meridians differ from those used for mapping purposes by the Coast and Geodetic Survey in that they are marked at half-mile intervals on the ground as basic controls for making public land surveys.